WE CLAIM AS OUR INVENTION:

1. An implantable medical device comprising:

a pressure sensor adapted to be positioned in the right ventricle of a heart, for measuring right ventricular pressure and for generating a pressure signal corresponding to the measured right ventricular pressure;

a timing unit supplied with said pressure signal which determines, from said pressure signal, diastolic timing signals identifying a beginning and an end of a diastolic phase of the heart; and

a signal processor connected to the timing unit and also supplied with said pressure signal, said signal processor, using said diastolic timing signals determining from said pressure signal a diastolic pressure signal representing right ventricular pressure only during the diastolic phase of the heart cycle.

2. An implantable medical device as claimed in claim 1 wherein said timing unit comprises a differentiator which differentiates said pressure signal to obtain a differentiated pressure signal, and a comparator supplied with said pressure signal and said differentiated pressure signal, said timing unit also being supplied with respective threshold values for said pressure signal and for said differentiated pressure signal and comparing said pressure signal and said differentiated pressure signal with the respective threshold values to generate said diastolic timing signals.

3. An implantable medical device as claimed in claim 2 wherein said timing unit comprises a further differentiator which differentiates said differentiated pressure signal to obtain a second differentiated pressure signal, and wherein said timing unit uses said second differentiated pressure signal in combination with said pressure signal as the respective threshold values.

4. An implantable medical device as claimed in claim 2 wherein said timing unit comprises a further differentiator which differentiates said differentiated pressure signal to obtain a second differentiated pressure signal, and wherein said timing unit uses said second differentiated pressure signal in combination with the differentiated pressure signal as the respective threshold values.

5. An implantable medical device as claimed in claim 2 wherein said timing unit comprises a further differentiator which differentiates said differentiated pressure signal to obtain a second differentiated pressure signal, and wherein said timing unit uses said second differentiated pressure signal in combination with the pressure signal and the differentiated pressure signal as the respective threshold values.

6. An implantable medical device as claimed in claim 1 wherein said signal processor generates said diastolic pressure signal substantially continuously during an entirety of said diastolic phase.

7. An implantable medical device as claimed in claim 1 wherein said signal processor comprises a median filter which generates a smoothed combination of respective diastolic pressure signals from a plurality of successive heart cycles.

8. An implantable medical device as claimed in claim 1 further comprising an electrical stimulation generator which emits electrical signals comprising stimulation therapy, and therapy control logic supplied with said diastolic pressure signal for controlling said electrical stimulation generator to administer said stimulation therapy dependent on said diastolic pressure signal.